AMENDMENT

IN THE CLAIMS:

Please amend claims 1, 11, 20 and 24, and cancel claims 22-23 as provided below:

1. (Currently amended) A receiver circuit comprising:

at least one amplifier device for amplification of a data signal which is applied to an input terminal of the receiver circuit, and

a control device for measuring a data rate of the data signal, and for setting a bandwidth of the amplifier device such that the bandwidth of the amplifier device corresponds to the data rate of the data signal<u>, wherein the bandwidth is set as small as possible without the data signal being corrupted during amplification</u>.

2. (Previously presented) The receiver circuit as claimed in claim 1, wherein the control device comprises a data correlator having an input terminal such that the data correlator receives a received signal including one of the data signal and an amplified data signal, which has been amplified by the amplifier device,

wherein the data correlator includes means for generating, in response to the received data signal, at least one phase-shifted auxiliary signal,

wherein the data correlator also includes means for subjecting the received data signal and the at least one phase-shifted auxiliary signal to autocorrelation, and

wherein the data correlator also includes means for producing at least one correlation signal, which corresponds to the autocorrelation, on an output terminal of the data correlator.

3. (Original) The receiver circuit as claimed in claim 2, wherein the data correlator comprises:

a phase shifter coupled to receive the received data signal for forming a phase-shifted auxiliary signal, and

a D flipflop having a data input terminal connected to receive the received data signal, a clock terminal connected to receive the phase-shifted auxiliary signal, and an output terminal for transmitting a correlation signal.

4. (Original) The receiver circuit as claimed in claim 3, wherein the data correlator includes a plurality of phase shifters for producing two or more auxiliary signals, and a plurality of D flip-flops that are respectively coupled to receive the received data signal and a corresponding auxiliarly signal such that each D flip-flop produces a corresponding correlation signal that is formed with a different phase shift with respect to the data signal.

5. (Original) The receiver circuit as claimed in claim 4, wherein the control device further comprises a bandwidth monitoring device that is coupled to receive the correlation signals produced by the data correlator, and includes means for producing a data rate measurement signal for driving the amplifier device.

6. (Original) The receiver circuit as claimed in claim 5, wherein the bandwidth monitoring device includes means for averaging each of the correlation signals over time, and for using each averaged correlation signal to produce a respective binary threshold value signal, which indicates whether the time mean value of the respective correlation signal is less than or greater than a predetermined threshold value.

7. (Original) The receiver circuit as claimed in claim 6, wherein the bandwidth monitoring device comprises a low-pass filter for time averaging of each of the correlation signals, and a comparator for forming each of the binary threshold value signals.

8. (Original) The receiver circuit as claimed in claim 6, wherein the control device further comprises a state machine which is coupled to receive the data rate measurement signal from the bandwidth monitoring device, and includes means for setting the bandwidth of the amplifier device in response to the data rate measurement signal.

9. (Original) The receiver circuit as claimed in claim 1, further comprising a switching apparatus for switching the noise and for varying the noise response of the amplifier device.

10. (Original) The receiver circuit as claimed in claim 9, wherein the switching apparatus comprises means for optimizing a sensitivity of the receiver circuit by at least one of switching and varying an operating point of the amplifier device.

11. (Currently amended) A method for operation of a receiver circuit, the method comprising:

amplifying a data signal using an amplifier device to form an amplified data signal,

measuring a data rate of at least one of the data signal and the amplified data signal, and

setting a bandwidth of the amplifier device such that the bandwidth of the amplifier device corresponds to the measured data rate, wherein the bandwidth is set as small as possible without the data signal being corrupted during amplification.

12. (Original) The method as claimed in claim 11, wherein measuring the data rate comprises:

forming at least one digital correlation signal by subjecting said one of the amplified data signal and the data signal to autocorrelation,

averaging the at least one digital correlation signal over time, and

utilizing the time mean value to produce a data rate measurement signal which characterizes the data rate of said one of the amplified data signal and the data signal.

13. (Original) The method as claimed in claim 12, wherein the autocorrelation comprises:

forming at least one phase-shifted auxiliary signal by phase-shifting said one of the amplified data signal and the data signal, and

correlating said one of the amplified data signal and the data signal and the at least one phase-shifted auxiliary signal, thereby forming the at least one correlation signal.

14. (Original) The method as claimed in claim 13, wherein the correlation of one of the amplified data signal and the data signal and of the at least one phase-shifted auxiliary signal comprises using a D flipflop such that

the data signal is fed in at a D input of the D flipflop, and

the D flipflop is triggered by positive or negative edges of the at least one phase-shifted auxiliary signal, thereby forming the correlation signal which corresponds to the phase shift of the auxiliary signal at an output terminal of the D flipflop.

15. (Original) The method as claimed in claim 13, further comprising using the time mean value of the at least one correlation signal to produce a binary threshold value signal which indicates whether the time mean value of the at least one correlation signal is less than or greater than a predetermined threshold value.

16. (Original) The method as claimed in claim 15, further comprising forming the time mean value of each of the at least one correlation signals using a low-pass filter.

17. (Original) The method as claimed in claim 16, further comprising forming the threshold value signal using a comparator, by applying the time mean value of the correlation signal as well as the predetermined threshold
value to said comparator.

18. (Original) The method as claimed in claim 13, further comprising:

producing two or more phase-shifted auxiliary signals such that said two or more phase-shifted auxiliary signals are phase-shifted differently with respect to said one of the amplified data signal and the data signal, and

producing a digital correlation signal and a binary threshold value signal with each auxiliary signal.

19. (Original) The method as claimed in claim 18, further comprising producing the data rate measurement signal as a thermometer code using the threshold value signals.

20. (Currently amended) A method for characterization of the data rate of a digital data signal, the method comprising:

subjecting the data signal to autocorrelation such that at least one digital correlation signal is formed,

subjecting the at least one digital correlation signal to averaging over time, ~~and~~

utilizing the time mean value to produce a data rate measurement signal which characterizes the data rate of the data signal,

using the time mean value of the at least one correlation signal to produce a binary threshold value signal which indicates whether the time mean value of the at least one correlation signal is less than or greater than a predetermined threshold value,

producing two or more phase-shifted auxiliary signals that are phase-shifted differently with respect to the data signal, and

using each auxiliary signal to produce a corresponding digital correlation signal and a corresponding binary threshold value signal.

21. (Original) The method as claimed in claim 20, wherein the autocorrelation comprises:

phase-shifting the data signal, thereby forming at least one phase-shifted auxiliary signal, and

correlating the data signal and the at least one phase-shifted auxiliary signal to form the at least one correlation signal.

22. (Canceled).

23. (Canceled).

24. (Currently amended) The method as claimed in claim ~~23~~ 20, further comprising using the threshold value signals to produce the data rate measurement signal in a thermometer code.

25. (Original) The method as claimed in claim 24, correlating the data signal and the phase-shifted auxiliary signals comprises utilizing a D flipflop such that

the data signal is fed in at a D input of the respective D flipflop, and
the respective D flipflop is triggered by positive or negative edges of the respective phase-shifted auxiliary signal, as a result of which the correlation signal which corresponds to the phase shift of the respective auxiliary signal is in each case formed at the output of the respective D flipflop.

26. (Original) The method as claimed in claim 24, further comprising forming the time mean values of the correlation signals using a low-pass filter.

27. (Original) The method as claimed in claim 24, further comprising forming the threshold value signals using a comparator such that the time mean value of the respective correlation signal as well as the predetermined threshold value are applied to this comparator.